

Energy Transition 2.0: Regional Economies & Renewable Energy Policy

Best Practices in the USA and Germany



Berlin Seminar on Energy Policy

A Transatlantic Experts' Forum

Stuttgart, Berlin &
Hamburg
July 8-16, 2017

U. S. DELEGATION:

David Frederickson, commissioner, Minnesota Department of Agriculture

Dr. Sabine Engel, program director, Institute on the Environment, University of Minnesota

Betsy Engelking, vice president of strategy and policy, Geronimo Energy

Nick Frentz, Minnesota State Senator

Dr. Jessica Hellmann, executive director, Institute on the Environment, University of Minnesota

Jim Horan, director of government affairs and counsel for the Minnesota Rural Electric Association (MREA)

John Jasinski, Minnesota State Senator

Steve Kelley, J.D., senior fellow, Humphrey School of Public Affairs, University of Minnesota

Dr. Samuel Mukasa, dean, College of Science & Engineering, University of Minnesota

Ann McCabe, executive director, The Climate Registry; previously commissioner, Illinois Commerce Commission

Kristin Munsch, deputy director, Illinois Citizens Utility Board

Yusef Orest, member services manager & demand response management system manager, Arrowhead Electric Cooperative

Kathryn Papadimitriou, chair, Illinois Pollution Control Board

Eric Pratt, Minnesota State Senator

Warren Rau, board member, Agralite Electric Cooperative

Matt Schuerger, commissioner, Minnesota Public Utilities Commission

David Senjem, Minnesota State Senator

Ken Smith, president and chief executive officer, District Energy St. Paul and Ever-Green Energy

"Energy Transition 2.0: Regional Economies & Renewable Energy in the US Upper Midwest/Berlin Seminar on Energy Policy" brings together leading experts from the USA and Germany to discuss best practices and opportunities for innovation. The forum is supported with funding from Germany's Federal Ministry for Economic Affairs and Energy (BMWi) based on a decision of the German Bundestag.

Gefördert durch:



Bundesministerium
für Wirtschaft
und Energie

aufgrund eines Beschlusses
des Deutschen Bundestages

DAAD

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Welcome

Welcome to the 2017 Berlin Seminar on Energy Policy. It is a unique venue for leaders in government, politics, business, academia and the nonprofit sector from Germany and the U.S. Upper Midwest to come together to share information and perspectives on how best to grow and achieve a green energy future.

The annual Berlin Seminar on Energy Policy is part of a larger Regional Economies & Renewable Energy Policy dialogue that in 2017 is hosted once again in direct partnership with Germany's Federal Ministry for Economic Affairs and Energy. That partnership allows participants unrivaled insight into Germany's ongoing energy transition. From an American perspective one might want to call it an energy revolution. The pace, the scope, the growing complexity, and the unequivocal support this transformation enjoys in the broad population: all that is most impressive. Germany does lead. And—as some of the repeat members of the Minnesota and Illinois delegations observe—the Germans also lead the way in being flexible, tweaking where tweaking is needed, dropping some things, adding others.

Germany has a national energy policy. The United States does not. Instead, energy policy in the USA is foremost a state responsibility. With the stalling of renewable energy policy at the US federal level, that structure is becoming more important and also more visible. The members of this year's delegation are from Minnesota and Illinois. Currently and thanks to bipartisan legislation in 2007, Minnesota produces 22% of its electricity from renewable resources. In the most recent legislative session, a bipartisan group of legislators proposed doubling the state's renewable energy standard to 50% by 2030. In Illinois, cheap and abundant natural gas is displacing coal and nuclear energy. In contrast to Germany, however, renewable energy policy is still politicized in the USA. We are excited that this year's delegation again has strong representation from both parties.

The agenda for this year's Berlin Seminar is very much about Energy Transition 2.0. How is Germany pushing ahead with its signature integrated approach to renewable energy? How does government work with science and the private sector to enable the technological leaps that are needed to reach the climate goals? How does the expansion of distributed generation in rural areas change the playing field for rural DSOs? What is the role of energy efficiency in producing economic returns and establishing leadership in new technology for additional economic returns?

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—Leading the way toward a future in which people and the environment prosper together—

Brochure design by Daniel Pinkerton.



The Minnesota and Illinois delegation members are eager to learn from the policy architects and practitioners in Germany's Energiewende, to compare notes, and to push change at home. The agenda combines seminar-style discussions with site visits. New this year is the opportunity to explore model solutions in Baden-Württemberg with its expansive rural areas and to learn about renewable energy for heavy industry in Hamburg.

To keep the exchange fresh for speakers and delegation members, a few of the sessions include snap presentations by the U.S. members on a special area of expertise. The result, we hope, is an in-depth dialogue that is valuable for all.

The Berlin Seminar on Energy Policy is a special project of the University of Minnesota's Institute on the Environment and a group of international partners: Germany's Federal Ministry for Economic Affairs and Energy, Germany's Foreign Office, and the German Academic Exchange Service (DAAD).

Additional partners are providing key support: Germany's Federal Environment Agency UBA, the Ministry of the Environment, Climate Protection and the Energy Sector of the state of Baden-Württemberg, the Senate of the Free and Hanseatic City of Hamburg, the U.S. Embassy in Berlin, Agora Energiewende, Flughafen Stuttgart Energie, Fichtner IT, Hafencity Hamburg GmbH, Hamburg University of Applied Sciences, Hamburger Hochbahn/HVV, Netze BW, Renewable Grid Initiative, The Regulatory Assistance Project, Stadtwerke Karlsruhe, Stadtwerk am See, TRIMET, Zweckverband Bodensee-Wasserversorgung and the German Embassy at Washington. We thank all these organizations. A special shout-out to Verband für Energie und Wasser e.V. and its managing director Torsten Höck for putting together a terrific program in Baden-Württemberg. Finally, thank you to the three dozen expert speakers who are giving so freely their time and expertise. It's a privilege to learn from you.

Best wishes for a stimulating series of conversations,

A handwritten signature in black ink, appearing to read 'Sabine Engel'.

Dr. Sabine Engel
director for international partnerships, University of Minnesota Institute on the Environment

Smart Energy Showcases—Digital Agenda for the Energy Transition

A large-scale research project funded by Germany's Federal Ministry for Economic Affairs and Energy (BMWi)

Policy measures and innovative research together drive Germany's Energy Transition.

The 2017 Minnesota and Illinois delegation will visit with the project leaders of two of the five smart energy showcases, C/sells and NEW 4.0. Last year's delegation had the opportunity to discuss the WindNODE showcase project with its project leader Dr. Markus Graebig.

"C/sells: large-scale showcase in the 'solar arch' in southern Germany"

The "C/sells" showcase spans the southern German states of Baden-Württemberg, Bavaria and Hesse and focuses on solar energy.

The 'C/sells' showcase is based on an energy system organized into cells. Regional cells interact within a supra-regional system. The cells vary greatly in size. They may consist of individual sites or whole distribution grids. Every cell generates energy for itself before supplying others. If possible, energy supply and demand are balanced directly within the cell. Energy that cannot be used directly within the cell where it is generated, is exchanged with other cells. This helps optimize the energy system as a whole, and, as all cells are part of a joint system, ensures an efficient and robust energy infrastructure.

Other central aspects of the showcase include incentives for improving flexibility in distribution grids and balancing energy via the heat and transport sector.

The delegation will meet with Dr.-Ing. Albrecht Reuter, director of the C/sells Project and main author of the Smart Grids Roadmap Baden-Württemberg.

"NEW 4.0: the energy transition in the north of Germany"

The 'NEW 4.0' showcase brings together the city of Hamburg – a large center of demand – and the state of Schleswig-Holstein – a key center for the generation of wind energy. The project attempts to show that it will indeed be possible to supply 70 per cent of the entire region's energy demand from renewable sources by 2025 in a way that is both secure and reliable. By using state-of-the-art technology and improved market rules, supply and demand are to be balanced in the best possible way.

One of the main goals is to ensure that surplus electricity can be managed efficiently. A two-pronged approach is used. First of all, the frequency with which wind-powered installations have to be curtailed is to be reduced by improving the export of electricity to other regions. Secondly, the use of electricity in the region itself is to be increased by employing suitable flexibility options. The energy system is to be made more flexible, in particular by using demand side management, storage units and sector coupling in order to balance consumption. Improving flexibility is to also help reduce the share of electricity that has to be supplied from conventional power plants in periods when only small amounts of renewable energy are generated.

The delegation will meet with Prof. Dr. Werner Beba, coordinator and director of the NEW 4.0 project.

*source: original text from the BMWi website
<https://www.bmw.de/Redaktion/EN/Artikel/Energy/sinteg-funding-programme.html>



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Institute on the Environment
@ the University of Minnesota

Program

Welcome to Germany—cultural program in Baden-Württemberg

Saturday, July 8, 2017 – Arrival day

Individual arrivals; take cab to hotel

delegation hotel: Maritim Hotel Stuttgart
Seidenstrasse 34, 70174 Stuttgart, Tel: +49 711 9420

3:30 PM *meet in hotel lobby for optional informal walking tour of city*

6:00 PM *meet in hotel lobby to walk to restaurant*

6:30 PM group dinner at local brewery Brauhaus Calwer-Eck (Calwer Strasse 31, 70173 Stuttgart
Tel: +49-711-22249440)

Sunday, July 9, 2017 – Cultural Day

10:00 AM *meet in hotel lobby*
visit baroque palace Residenzschloss Ludwigsburg and gardens

7:00 PM group dinner at Stuttgarter Stäffele restaurant (Buschlestrasse 2a
70178 Stuttgart, Tel: +49-711-66419-0)

guests:

Torsten Höck, managing director, Association of Energy and Water Industries in Baden-Württemberg (VfEW)

Isabell Bilger, director of communications, VfEW

Program Day 1

Monday, July 10, 2017 – Germany's Energy Transition at the State Level

Program partner: **Torsten Höck**, managing director, Association of Energy and Water Industries in Baden-Württemberg (VfEW)

Ministry of the Environment, Climate Protection and the Energy Sector of the State of Baden-Württemberg
Kernerplatz 9
70182 Stuttgart
Tel: +49-711-126-2719

8:00 AM *check out of hotel; bags to be stored so bus driver can pick them up*

8:20 AM *walk to ministry*

9:00-10:30 AM "Energy Policy: Goals, Status – State Level & Federal Level"

Helmfried Meinel, director general, Ministry of the Environment, Climate Protection and the Energy Sector of the State of Baden-Württemberg (UM BWL)

Dr. Birgit Fais, title

delegation speaker snap presentations: "Energy Policy: Goals and Status – MN & IL"

Matt Schuerger, commissioner, Minnesota Public Utilities Commission

Katie Papadimitriou, chairwoman, Illinois Pollution Control Board

moderator: **Steve Kelley**, senior fellow, Humphrey School of Public Affairs, University of Minnesota

ministry attendees:

Karl Greissing, division head, energy sector, UM BWL

Dr. Massimo Genoese, energy policy department, UM BWL

Dr. Till Jossen, renewable energy department, UM BWL

Tobias Eisele, Europe and international cooperation department, UM BWL

Heike Engelhardt, grid and energy storage department, UM BWL

Dr. Ulrich Maurer, department head, Europe and international cooperation, UM BWL

Maik Aupperle, Europe and international cooperation department, UM BWL

10:45-12:00 PM “Smart Grids in BaWue: C/sells—decentralized renewable energy showcase (SINTEG)”

Dr.-Ing. Albrecht Reuter, director of business development smart grids, Fichtner GmbH & Co. KG;
director of C/sells Project

delegation speaker snap presentation:

Dr. Sam Mukasa, dean, College of Science & Engineering, University of Minnesota

moderator: **Steve Kelley**

12:15-1:30 PM working lunch: “System Stability – Measures by Distribution Grid Operators”

Dr. Christoph Müller, executive director of finance, Netze BW GmbH

Dr. Martin Konermann, executive director of technology, Netze BW GmbH

Dr. Roland Trauth, chief operating officer, Stadtwerke Karlsruhe Netzservice GmbH (municipal
distribution system operator, City of Karlsruhe)

moderator: **Steve Kelley**

1:45 PM *board bus; transfer to Stuttgart airport*

Flughafen Stuttgart GmbH [Pforte West at Heizwerk CHP plant]

Technisches Facility Management

Energieprojekte

Flughafenstrasse 32

70629 Stuttgart

contact: **Elias Siehler**, Tel.: +49-711 948 3647; mobile: +49-172 750 3951

2:15-3:30 “Airport Stuttgart—Intelligent Management of Decentralized Energy Systems: Energy Efficiency”

Dirk Spengler, head, facilities management & IT, Flughafen Stuttgart GmbH

Holger Veith, head, utilities, Flughafen Stuttgart GmbH

Nicole Seibold, facilities management, Flughafen Stuttgart GmbH

Elias Siehler, facilities management, Flughafen Stuttgart GmbH

3:45 PM *board bus; transfer to Sonderbuch (approx. 1 hr)*

Grid Lab Sonderbuch

Kirchgasse 1, 88529 Sonderbuch

Tel: +49-711-289-48331

Contact: **Imen Ghourabi**

4:45-6:00 PM “Grid Lab Sonderbuch: Full Village Field Testing”

Imen Ghourabi, smart systems manager and electrical engineer, Netze BW GmbH

delegation speaker snap presentation:

Yusef Orest, member services manager & demand response management system manager, Arrowhead
Electric Cooperative

6:15 PM *board bus; transfer to Überlingen on Lake Constance (approx. 2 hrs)*

Bad Hotel Überlingen
Christophstrasse 2
886625 Überlingen
Tel: +49-0-7551-837-0

Hotel Zähringerhof [McCabe, Engel, Orest]
Münsterstrasse 36-38
88662 Überlingen
Tel: +49-0-7551-63665

8:15 PM group dinner and day 1 debrief at Bad Hotel Überlingen

Program Day 2

Tuesday, July 11 – Distributed Renewable Energy Models in “outstate” State of Baden-Württemberg

Program partner: **Torsten Höck**, managing director, Association of Energy and Water Industries in Baden-Württemberg (VfEW)

8:20 AM check-out of hotel and board bus for transfer to municipal utility (group at Zähringerhof, please check out at 8:00 and board bus)

Stadtwerk am See
Kurt-Wilde-Strasse 10
Überlingen
contact: **Oliver Hoch**, Tel.: +49-160 981 23838 (mobile)

9:00-10:50 AM Site visit #3 – Stadtwerk am See municipal utility w/ large spectrum of services & civic mandate
Alexander Florian-Bürkle, managing director, Stadtwerk am See municipal utility
Udo Woble, head of division energy systems, Stadtwerk am See municipal utility

11:00 AM board bus for transfer to Sipplinger

Wasserwerk Sipplinger Berg
88662 Überlingen
Tel.: +49-7551 833-1157

11:30-1:15 PM Site visit #4 – Water-Energy Nexus: Energy Efficiency
Maria Quignon, head of communications, Lake Constance Water Supply BWV
Dr. Michael Petri, manager, chemical analysis laboratory, Lake Constance Water Supply BWV
Christoph Drusenbaum, energy manager, Lake Constance Water Supply BWV; research associate, Fraunhofer Institute for Wind Energy and Energy System Technology

1:15 PM board bus for transfer to lunch

Höhengasthaus Haldenhof
Haldenhofweg 51
88662, Überlingen, tel: +49-7773-5613

1:30-2:30 PM lunch at Höhengasthaus Haldenhof

2:30 PM board bus for transfer to Schaffhausen (approx. 55 min.)

Arcona Living Hotel Schaffhausen
Bleicheplatz 1
CH-8201 Schaffhausen [opposite train station; parking for bus on hotel grounds]
contact: **Juliane Huber**, Tel.: +41-52 633 52 14

3:30-4:30 PM “Effects of Germany’s Energy Transition on Switzerland”
Martin Kessler, Regierungsrat des Kantons Schaffhausen (commissioner), head of building and energy, Schaffhausen canton
Thomas Fischer, chief executive officer, Elektrizitaetswerk des Kantons Schaffhausen electric utility of the Canton of Schaffhausen (EKS), Switzerland

4:30 PM (sharp) board bus to Zurich airport (approx. 1 hr.)

6:00 PM check in for flight

6:00-7:00 PM individual dinner at airport

7:15 PM group flight – ABB573 Zurich to Berlin TXL (8:40 PM arrival); take cab to hotel

Maritim Hotel Berlin
Stauffenbergstrasse 26, Berlin
Phone: +49-30 20650

Day 2 debrief at Hotel Maritim Berlin Mitte (hotel lounge)

Program Day 3

Wednesday, July 12, 2017 – Policy Frameworks

8:15 AM meet in hotel lobby; public transit to Agora Energiewende offices (30 min.)

Anna-Louisa-Karsch-Strasse 2
10178 Berlin
Tel: +49-30-7001435-000

Guest attendee: **Jens Acker**, counselor for energy and climate policy, Embassy of the Federal Republic of Germany in Washington D.C.

9:00-10:15 AM “Germany’s Energy Transition – Update & Next Steps”

Dr. Martin Schöpe, division head, international energy policy, multilateral cooperation on energy and energy cooperation with industrialized countries, Germany’s Federal Ministry for Economic Affairs and Energy
moderator: **Steve Kelley**

10:15 AM coffee break

10:30-12:00 PM “Transition in Market Approaches: The Recent Renewable Energy Auctions”

Patrick Graichen, executive director, Agora-Energiewende
delegation speaker: “US Renewables in Transition”
Betsy Engelking, vice president, Geronimo Energy
moderator: **Steve Kelley**

12:05 PM take public transit to RGI offices

Renewable Grid Initiative e.V. Berlin
Krausenstrasse 8, 10117 Berlin
Phone: +49-30 767719450

12:30-1:30 PM lunch and info meeting on work of Renewable Grid Initiative
Antonella Battaglini, founder & CEO, Renewables Grid initiative
moderator: **Steve Kelley**

1:45-3:00 PM “Looking Ahead: Disruption vs Opportunity”
Gerard Reid, founder and co-partner, Alexa Capital LLP

moderator: **Steve Kelley**

3:15-4:30 PM “Are Standby Power Charges an Answer to Tariff Design Challenges?”
Andreas Jahn, senior associate, Regulatory Assistance Project Berlin office

moderator: **Steve Kelley**

4:30-5:00 PM day 3 debrief

6:00 PM *meet in hotel lobby to take public transit to Germany’s Federal Foreign Office (bring passport to pass security!)*

Internationaler Club
Auswärtiges Amt
Entrance: Kurstrasse 36
10117 Berlin
contact: +49-151 179 54 965

6:30-9:30 PM Dinner in honor of the MN/IL Delegation at Germany’s Foreign Office (*see p. 10 for details*)
HOST: **Hon. Jürgen Hardt, MdB**, and coordinator of transatlantic cooperation, Germany’s Foreign Office

Program Day 4

Thursday, July 13, 2017 – Berlin/Hamburg

8:30 AM *meet in hotel lobby to take public transit to Reichstag building*

9:00-10:00 AM visit Reichstag building and cupola (*bring passport to pass security!*)

11:00-12:00 PM political topic session: “The European Union and Its Future – Why a Strong Partnership Between the US and Europe Matters”
Henning Speck, senior foreign and security advisor, CDU/CSU Parliamentary Group

12:15 PM *return to hotel, retrieve bags, proceed to main station Berlin Hauptbahnhof for train to Hamburg; individual lunch (at station or on train)*

1:42 PM *ICE 1712, track 8, car 24 (arrival in Hamburg at 3:24 PM)*

take public transit to Radisson Blu Hotel (Am Dammtor)

Radisson Blu Hotel
Marseiller Str. 2, 20355 Hamburg, Germany
Phone: +49 40 35020

4:20 PM *meet in lobby to take public transit to HafenCity*

HafenCity Infocenter im Kesselhaus
Am Sandtorkai 30, 20457 Hamburg
Phone: +49-40-36901799

5:00-7:00 PM “The Role of Urban Planning in the Energy Transition—A guided tour of HafenCity Hamburg Redevelopment”
Uwe A. Carstensen, freelance consultant for urban development, urban redevelopment and construction, HafenCity Hamburg GmbH

7:30-9:15 PM group dinner with Hamburg guests at Restaurant Brook (Bei den Mühlen 91, 20457 Hamburg. Tel.: +49-40 3750 3128)

Program Day 4

Friday, June 14, 2017 – Sector Coupling & Efficiency

8:10 AM *meet in hotel lobby; public transit to city of Hamburg Department of Urban Development and Housing (BSW) [take S31 at 8:29 from Dammtor to S-Wilhelmsberg station]*

Behörde für Stadtentwicklung und Wohnen (BSW)
Neuenfelder Straße 19
21109 Hamburg, Tel.: +49-40 428 40-0

9:00-10:15 AM “City of Hamburg: Energy & Transportation”
Marina Berning, title
Hagen Seifert, title
moderator: **Steve Kelley**

10:15 AM *coffee break*

10:30-11:45 AM “City Buyback of Energy Distribution Grids and New Energy Infrastructure Build-Out – Initial Lessons Learned”
Malte Wehmeyer, Dept. of Environment & Energy BUE, City State Hamburg
Thomas Grosche, Stromnetz Hamburg GmbH
moderator: **Steve Kelley**

12:00-1:15 PM “RE Energy Model Project New 4.0 – Project Idea & Future Energy System Services”- working lunch
Dr. Werner Beba, coordinator and director, Smart Energy Showcase NEW 4.0; director, Competence Center for Renewable Energy and Energy Efficiency, Hamburg University of Applied Sciences HAW Hamburg
moderator: **Steve Kelley**

1:40 PM *meet next speaker in BSW lobby*

1:45-3:00 PM walking tour “Energy Efficient Buildings: IBA Area Wilhelmsburg”
Johannes Robert, certified guide, International Buildings Exhibit IBA Hamubrg

3:15 PM *board group bus; transfer to TRIMET aluminum smelter*

3:45-5:30 PM “Heavy Industry and the Energy Transition: From Wind Energy to Thermal Storage to Flexible Loads”
Klaus Schweininger, head of finance, TRIMET; head, working group flexible load, NEW 4.0 project
Dr. Till Barmeier, head of energy storage research, Siemens Wind Power
Ansgar Lieberei, Hamburg Energie GmbH

5:45 PM *board bus for transfer to Radisson Blu Hotel*

Program Day 5

Saturday, July 15, 2017 – Concluding Roundtable and Next Steps

Location TBA

9:00-12:00 PM Concluding Roundtable Discussion
Guest expert: **Dr. Harry Lehmann**, head, division environmental planning and sustainable strategies, Germany’s Federal Environment Agency (UBA)

12:00 PM end of formal program; afternoon open for individual activities

3:30 PM optional tour of Hamburg Rathaus city hall [meet Sabine in city hall lobby]

Individual departures on Saturday and Sunday

Foreign Office Reception and Dinner

Wednesday, July 12, 6:30 P.M.-9:00 P.M.

Internationaler Club

Auswärtiges Amt

Entrance: Kurstrasse 36

10117 Berlin

Host: **The Honorable Jürgen Hardt, MdB, Germany's Coordinator of Transatlantic Cooperation, Federal Foreign Office (AA)**

Guests

Jens Acker, counselor for energy and climate policy, German Embassy Washington, D.C.

Dr. Camilla Bausch, director, Ecologic Institute

Martin Bornholdt, managing director, German Business Initiative for Energy Efficiency (DENEFF)

Werner Diwald, chairman of the board, German Hydrogen and Fuel-Cell Association (DWV)

Peter Fischer, deputy director general for energy & climate policy and export control, Germany's Federal Foreign Office (AA)

Jakob Flechtner, head energy infrastructure, security of supply, Association of German Chambers of Commerce and Industry (DIHK)

Oliver Frank, head of renewables and energy-efficient mobility, German Energy Agency (dena)

Dr. Annegret Groebel, head, international dept., Germany's Federal Grid Agency BNetzA

Ulrike Hansen, department head, market observation and monitoring of electricity/natural gas, Germany's Federal Grid Agency (BNetzA)

Bettina Heinen-Kösters, director Germany, exchanges & dialogue programs, U.S. Embassy

Dr. Gunar Hering, member of the Executive Board, Enertrag AG

Torsten Höck, managing director, Association of Energy and Water Industries Baden-Wuerttemberg (VfEW)

Olaf Höhn, managing director, Florida Eis Manufaktur GmbH

Bärbel Höhn, MdB, member of the German Bundestag; chair, Environment, Nature Conservation, Building and Nuclear Safety Cttee.

Andreas Jahn, senior associate, The Regulatory Assistance Project

Dr. Katrin Jordan-Korte, economic specialist, U.S. Embassy

Nicole Kaim-Albers, head of office, World Energy Council Weltenergierrat – Deutschland e.V.

Kerstin Klee, foreign energy and commodity policy dept., Germany's Federal Foreign Office (AA)

Hans Köppel, work unit foreign policy aspects of energy transition, foreign energy and commodity policy dept., Germany's Federal Foreign Office (AA)

Holgar Karl Kolley, deputy head, foreign energy and commodity policy dept., Germany's Federal Foreign Office (AA)

Georg Kössler, MdB, legislator, member of the Berlin state parliament

Dr. Sergey Lagodinsky, head, EU/North America department, Heinrich-Boell Foundation

Alexandra Langenheld, senior associate, Agora Energiewende

Oliver Loesch, adviser to the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), department for climate protection and climate protection plan; Institute for Resource Efficiency and Energy Strategies GmbH

Erik Magdanz, policy officer for energy, transportation, industry and innovation, U.S. Embassy

Dr. Georg Maue, energy efficiency and efficient use of energy policy dept., Germany's Federal Ministry for Economic Affairs and Energy (BMWi)

Thomas Meister, head of division, climate and environmental foreign policy, Germany's Federal Foreign Office (AA)

Craig Morris, senior fellow, Institute for Advanced Sustainability Studies e.V.

Carsten Müller, MdB, member of the German Bundestag; member, Environment, Nature Conservation, Building, Nuclear Safety Cttee.

Gunter Nissen, head of sales & operations, e-mobility Germany, Vattenfall

Woodward Clark Price, economic minister counselor, U.S. Embassy

Jörn Raubut, EU policy department, Germany's Federal Ministry for Economic Affairs and Energy (BMWi)

Carsten Retzke, manager for network fuel products, TOTAL Deutschland GmbH

Robert Schachtschneider, management, German Energy Agency (DENA)

Dr. Matthias Schmoll, climate protection policy department, cooperation with the USA, Germany's Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)

Rolf-Dieter Schnelle, MinDir a.D., formerly Federal Foreign Office (AA)

Dr. Martin Schöpe, head, international energy policy, Germany's Federal Ministry for Economic Affairs and Energy (BMWi)

Henning Speck, chief of staff to Jürgen Hardt KO-TRA, coordinator for transatlantic cooperation, Germany's Federal Foreign Office (AA)

Dr. Heidrun Suhr, Germany

Heidrun Tempel, head of division, international science, education and research policy and foreign cultural policy, Germany's Foreign Office (AA)



Die
Bundesregierung



Jürgen Hardt, MdB
Germany's Coordinator of
Transatlantic Cooperation

Anne Titton, manager, office
of KO-TRA Jürgen Hardt,
Germany's Federal Foreign
Office (AA)

Karsten Voigt, MdB a.D.,
former member of the German
Bundestag

Jens Vollprecht, partner, Becker
Büttner Held law firm

Harm-Berend Wiegmann,
department of energy policy,
German Trade Union
Confederation (DGB)

Dr. Margret Wintermantel,
president, German Academic
Exchange Service (DAAD)

Samuel Wurster, founder &
CEO, journeyman.io

Heinz Wirth, cultural relations
with the United States dept.,
Germany's Foreign Office (AA)

*and the members of 2017 Energy
Transition 2.0/Berlin Seminar
on Energy Policy*

Jürgen Hardt, MdB, is a member of the German Bundestag and serves as a full member on the Committee on Foreign Affairs and as a Substitute Member on the Committee on the Affairs of the European Union. He was appointed Coordinator of Transatlantic Cooperation in the Federal Foreign Office in April 2014. Since September 2015, he also serves as Foreign Policy Spokesman of the CDU/CSU Parliamentary Group (caucus).

Jürgen Hardt was first elected to the Bundestag in 2009, representing the 103rd district of North Rhine-Westphalia with the cities of Solingen, Remscheid, and parts of the City of Wuppertal. In addition to his committee memberships, he has been serving as an ordinary member of NATO's Parliamentary Assembly since 2009. Hardt has always placed special importance on close dialogue with fellow American and Canadian parliamentarians. He visited the United States for the first time in 1988, when he took part in a winter academy at the United States Military Academy at West Point organized by the Atlantic Council. From 2001 to 2009, he was head of corporate communications at Vorwerk, an internationally operating corporate group based in Wuppertal. Jürgen Hardt studied economics in Cologne and Heidelberg.

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Gefördert durch:



Bundesministerium
für Wirtschaft
und Energie

aufgrund eines Beschlusses
des Deutschen Bundestages

Betsy Engelking



David Frederickson



Nick Frenz



Jessica Hellmann



Jim Horan



John Jasinski



Delegate Biographies

Dr. Sabine Engel is director of international partnerships at the University of Minnesota Institute on the Environment (IonE). She serves as principal investigator on two projects: “Energy Transition 2.0: Regional Economies & Renewable Energy in the Upper Midwest/Berlin” and “Climate-Smart Municipalities: Modeling Integrated Energy Communities for the 21st Century—NRW and Minnesota.” From 2014 to October 2015, she was program director for economic development in the University of Minnesota’s Office of University Economic Development. From 2007 to 2014, Engel directed the interdisciplinary DAAD Center for German & European Studies at the University of Minnesota. Under her leadership, the center built unique Minnesota-Germany health policy and renewable energy policy exchange programs. She holds a PhD in English from Duke University and an MA from the University of Hamburg.

Betsy Engelking is vice president of strategy and policy at Geronimo Energy, a utility-scale wind and solar energy developer with active wind farms in Minnesota and a development pipeline of wind and solar projects in various stages of development throughout the Midwest. Before joining Geronimo in 2012, Engelking was director of resource planning for Xcel Energy, where she developed and implemented long-range power supply plans including compliance with Xcel’s renewable energy requirements. She has also held positions with Great River Energy and the Minnesota Public Utilities Commission. With more than 25 years of experience in the industry, Engelking has expertise in energy policy, renewable energy, resource planning, utility rates and regulation, and energy markets. She has worked both regionally and nationally to promote the advancement of wind energy and other renewables through participation with the National Association of Regulatory Utility Commissioners (NARUC), the National Wind Coordinating Committee (NWCC), the Great Plains Institute’s Powering the Plains collaborative, and by taking an active role in state and national policy development. She holds a B.S. in biology and an M.B.A. in finance and economics.

David Frederickson is Minnesota’s Commissioner of Agriculture (“Landwirtschaftsminister”). He was appointed by Minnesota Governor Mark Dayton in January 2011. Frederickson’s family roots in farming go back to 1873 and he and his wife operated a farm in Murdock, Minnesota, for over 24 years. In 1986, Frederickson was elected to the Minnesota State Senate and reelected in 1990. He represented constituents in rural Minnesota. As a senator he served on a variety of committees, including agriculture and rural development, education, government operations, taxes and tax laws, and local and urban government. From 1991 to 2002, Frederickson served as president of the Minnesota Farmers Union. He subsequently served as president of the National Farmers Union from 2002 to 2006. In both organizations, he worked on federal farm policy and other issues

important to farmers and ranchers. From 2007 to 2010, Frederickson worked as agricultural outreach director for U.S. Senator Amy Klobuchar. Commissioner Frederickson’s farm background and his wide range of experience in public service give him unique insights into the challenges facing Minnesota’s agricultural industry. Today, he is focused on ensuring the Minnesota Department of Agriculture fulfills its mission to protect the integrity of the state’s food supply, the health of its environment, and the strength of its agricultural economy.

Nick Frenz, J.D., is a first term Minnesota State Senator. His district is located in southcentral Minnesota and includes Mankato. Senator Frenz serves on three committees: Aging and Long-Term Care Policy; Agriculture, Rural Development, and Housing Finance; and Transportation Finance and Policy. Senator Frenz has a law degree from William Mitchell College of Law and a BA from Macalester College. He is a practicing lawyer and is a partner of Frenz and Frenz Law Offices, founded by his uncle and father, in Mankato. His mother was a state senator in California and Frenz grew up in California.

Dr. Jessica Hellmann is director of the Institute on the Environment at the University of Minnesota and the Russell M. and Elizabeth M. Bennett Chair in Excellence in the department of Ecology, Evolution and Behavior in the College of Biological Sciences where her research focuses on global change ecology and climate adaptation. She was among the first to propose and study ways to reduce the impact of climate change through new techniques in conservation management. Hellmann regularly counsels state and national governments on habitat management, restoration and endangered species. In addition, building upon her seminal findings in ecology, Hellmann has extended her work on climate change adaptation to human systems, including health, infrastructure, food and water. She works with governments and corporations to build investment in climate change adaptation and co-authored several climate assessment and adaptation planning efforts, including the biodiversity and ecosystem portions of the Chicago Climate Action Plan and the 2014 National Climate Assessment. From 2003 to 2015, Hellmann served on the faculty of the University of Notre Dame. Hellmann holds a PhD in biology from Stanford University and served as a postdoctoral fellow at Stanford’s Center for International Security and Cooperation and the University of British Columbia’s Centre for Biodiversity Research.

Jim Horan is director of government affairs and counsel for the Minnesota Rural Electric Association (MREA), a statewide association representing Minnesota’s 45 distribution and 6 generation and transmission cooperative utilities. He is responsible for government and regulatory affairs, public and media relations, and serves as counsel to the association. Jim leads the cooperative efforts at the Minnesota Capitol and with the Minnesota Congressional



Delegation on a range of energy and operational issues. He also represents cooperative utilities in the regulatory process and in interactions with state agencies. Prior to joining MREA, Horan managed energy efficiency programs, member services, government/regulatory affairs and communications for a large distribution cooperative in Oregon. He holds a law degree from William Mitchell College of Law along with certifications in utility management, utility finance, and project leadership.

John Jasinski is a first term Minnesota State Senator. His district is located in southeast Minnesota, encompassing Steele County and parts of Rice, Dodge and Waseca counties. Senator Jasinski is vice chair of the Transportation Finance and Policy Committee. He is also a member of the Capital Investment, Local Government, and State Government and Elections Committees and the Pension Commission. He was named "First Term Legislator of the Year" by the Coalition of Greater Minnesota Cities. Senator Jasinski was born and raised in Faribault, Minnesota, where he served as mayor for eight years. He served in the U.S. Navy as an air intercept controller. He is the vice president of MDC Real Estate Services and also works for Met-Con Companies management team. Senator Jasinski is a graduate of Minnesota State University Mankato.

Steve Kelley, J.D., is a senior fellow at the Humphrey School of Public Affairs at the University of Minnesota. From 2008 to 2013, he directed the Humphrey School's Center for Science, Technology and Public Policy. As director, he became PI Engel's principal program partner for the Minnesota-Germany energy policy exchange. He serves as moderator for the Berlin Seminar on Energy Policy. Before joining the University of Minnesota, Kelley was a state legislator, serving for ten years in the Minnesota State Senate and four years in the Minnesota House of Representatives. Kelley teaches in the Humphrey School's Science, technology and Environmental Policy program and serves on the University of Minnesota Water Council. He has collaborated with scientists and engineers on policy issues for NSF projects related to sustainable polymers and radio spectrum congestion. His current work focuses on science and math education, innovation and design thinking, and public engagement with science. Kelley serves on a number of nonprofit and advisory boards for civic education, youth development and STEM education organizations. Kelley practiced law in Minneapolis for over 20 years, specializing in commercial litigation. He holds a B.A. in political science and political economy from Williams College and a law degree from Columbia University.

Ann McCabe is executive director of The Climate Registry, a California-based nonprofit that develops tools for measuring and verifying reductions of greenhouse gases. It is governed by the majority of U.S. states and Canadian provinces. McCabe has extensive industry,

government and non-profit experience as an energy and environmental policy consultant. Before moving into her present position in June 2017, McCabe served a five-year term as a utility regulator at the Illinois Commerce Commission. Her term expired in January 2017. During that time, she focused on grid modernization, regional transmission and nuclear issues. She was president of the MidAmerica Regulatory Conference (MARC), a regional group of 14 state utility commissioners. She is a past president of the Organization of PJM States, Inc. board and former chairman of the National Association of Regulatory Utility Commissioners' (NARUC's) Nuclear Issues Subcommittee. Prior to these roles, McCabe managed environmental regulatory issues for BP and Amoco, consulted to industry, trade associations and nonprofits and served in the Illinois Washington DC office. She has a master's degree in public policy from the University of Chicago and a bachelor's in political science from Williams College.

Dr. Samuel B. Mukasa is dean of the University of Minnesota College of Science and Engineering. As dean, Mukasa is the college's chief executive officer and chief academic officer. The University of Minnesota's College of Science and Engineering is the University's second-largest college. It is ranked among the top engineering and science academic programs in the USA. Before moving to the U of M in August 2016, Dr. Mukasa served as dean of the College of Engineering and Physical Sciences and Eric J. Essene Professor of Geochemistry at the University of New Hampshire. At New Hampshire, he developed a strategic plan for his college, new undergraduate degree programs, and faculty cluster hiring initiatives to enhance interdisciplinary scholarship. He came to New Hampshire from the University of Michigan, where he had served 21 years on the faculty and, from 2007 to 2010, chaired the department of geological sciences. Dr. Mukasa is highly regarded for his research in geochemistry, geochronology and petrology. His work on the origin and evolution of rocks in the Bering Sea and Arctic Ocean regions has helped to shed new light on the evolution of continents and has relevance to issues of climate change. He has served as president of the Geochemical Society and in leadership positions for programs at the National Science Foundation and National Academy of Sciences focused on polar climate issues. He is a Fellow of the American Association for the Advancement of Science and the Geological Society of America. He holds a PhD in geochemistry from the University of California, Santa Barbara, an M.S. in geology from Ohio State University. He completed a postdoctoral fellowship at Lamont-Doherty Earth Observatory of Columbia University in New York.

Kristin Munsch, J.D., is deputy director for the Illinois Citizens Utility Board, a nonprofit consumer advocacy group that represents the interests of residential and small-business utility customers through outreach, education, litigation and policy advocacy. She has appeared before the Illinois Commerce Commission and the Federal



Eric Pratt



Warren Rau



Matt Schuerger



David Senjem



Ken Smith



Till Barmeier

Energy Regulatory Commission regarding utility rate issues; electricity supply and distributed energy resource planning, procurement and regulation; and competitive market issues, with a particular focus on the use of new technologies to benefit utility customers. Munsch is a member of the Illinois Smart Grid Advisory Council, a member of the board of directors for the Energy Foundry and treasurer of the board for the Consumer Advocates of PJM States. She has spoken before the Chicago Bar Association, the Institute for Regulatory Policy Studies, American Gas Association Rates School and the Critical Consumer Issues Forum on customer education, rate design, data access and challenges in designing a “utility of the future” for customer benefit. Prior to joining CUB, she was an assistant attorney general for the State of Illinois in the Public Utilities Bureau. Before entering law school, Munsch focused on the design and implementation of federal workforce development and public assistance programs, serving as associate director of the Chicago Workforce Board and as a policy analyst for the City of Chicago. Munsch is a graduate of Northwestern University and Chicago-Kent College of Law.

Yusef Orest is member services manager, demand response management system manager, and distributed generation coordinator for Arrowhead Electric Cooperative in Cook County, Minnesota. Orest has worked broadly in the energy sector in consulting, development, management, and public engagement roles. Prior to joining Arrowhead Electric Cooperative in 2016, Orest served as member services manager at another Minnesota electric cooperative (Agralite), as a project developer for utility scale renewable energy developments (Juhl Energy), and as a consultant to development organizations and power marketers (WindLogics). He has experience with a range of energy sources and technologies (biomass, solar, wind coal, gas turbines, and co-gen plants). Orest graduated from the University of Minnesota Morris with a BA in economics.

Katie Papadimitriou is chairwoman (“Minister”) of the Illinois Pollution Control Board. She was appointed by Illinois Governor Bruce Rauner in May 2017. She brings government and private sector experience in highly regulated industries to the Board, focusing on state and federal regulatory policies with an emphasis on deregulated energy markets and the convergence of energy and the environment. Her wide-ranging private sector experience includes: providing strategic guidance and execution to data analytics firms in the clean energy sector; developing corporate regulatory and legislative strategies; and leading business development and corporate strategy for a utilities-focused group, where she won over \$15 million of U.S. Department of Energy funds to develop and deploy self-healing, automated, and cyber secure distribution (micro-grids) and transmission management systems. Papadimitriou co-led a partnership with a lighting company to deploy advanced command and control, high efficiency municipal

streetlights. She created, managed, and grew the nation’s first real-time electricity pricing program for residential customers served by the largest electric utility in Illinois. She also has held positions with Constellation NewEnergy, North America’s largest retail electric supplier, the Illinois Commerce Commission, the Illinois Pollution Control Board, and other Illinois state agencies. Papadimitriou holds a master’s of science degree from Illinois Institute of Technology and a BA in political science from the University of Chicago.

Eric Pratt is a second-term Minnesota State Senator representing Scott County in the southern part of the Twin Cities metro region. He is assistant majority leader and chairs the Senate E-12 Policy Committee. He also serves as vice chair on the E-12 Finance committee and is a member of four additional committees: Commerce and Consumer Protection Finance and Policy; Energy and Utilities Finance and Policy; Rules and Administration; Taxes. Senator Pratt has worked in banking and finance for 25 years, leading teams in risk management and fraud prevention. Before his election to the state senate, he was a member of the Prior Lake-Savage School Board, serving four terms including as treasurer and chair (2000-2012). Senator Pratt holds an MBA from the University of St. Thomas and a BA in economics from the University of Colorado. At the University of Colorado, he played football, an experience he credits with teaching him much about leadership and how to master professional and personal challenges.

Warren Rau serves on the board of directors of Agralite Electric Coop in Benson, Minnesota. He joined the board in 2010. In 2016, he was elected to also serve on the board of directors of the Minnesota Rural Electric Association, where he represents nine electric distribution coops from western Minnesota. Rau is an active farmer who lives with his wife Elaine near Appleton in west central Minnesota, where they have farmed since 1974. Rau has been involved in township government since 1984 and has been a Minnesota licensed emergency medical technician since 1987, serving with the local ambulance service. Rau has always been concerned about and involved in the well-being of his community, which is why for the past fifteen years he also has been on the Upper Minnesota Valley Regional Development Commission as a director.

Matt Schuerger is commissioner at the Minnesota Public Utilities Commission. He was appointed by Governor Mark Dayton in February 2016. Commissioner Schuerger is a member of the National Association of Regulatory Utility Commissioners (NARUC). He is active on the NARUC committee on electricity and on the NARUC committee on natural gas. Commissioner Schuerger represents the Minnesota Commission on the Organization of MISO States (OMS). He has over thirty years of experience in the energy industry as a senior manager and professional engineer, including work with power



Antonella Battaglini



Werner Beba



Alexander-Florian
Bürkle



Uwe A. Carstensen



Christoph
Drusenbaum



Birgit Fais

system planning, energy markets, grid modernization, distributed energy resources, grid integration of renewable energy, energy policy, strategic planning, and business development. From 2001 until he was named to the Commission, he was president of an engineering and management consulting firm. Prior to that, he was executive vice president of District Energy St. Paul Inc., a privately held provider of district heating, district cooling, and cogenerated electricity. Commissioner Schuerger has a M.S. in electrical engineering from the University of Minnesota, an MBA from the University of St. Thomas, and a B.S. in mechanical engineering from Purdue University. His term will expire January 3, 2022.

David H. (“Dave”) Senjem is a Minnesota state senator. Senator Senjem represents portions of Dodge and Olmsted Counties, including one-half of the City of Rochester. He was first elected to the Senate in 2002, and has served as both the Senate Majority and Minority Leader. He spent 44 years of his professional life with Mayo Clinic retiring as environmental affairs officer. He also served 11 years on the Rochester City Council. Currently, Senator Senjem is chairman of the Capital Investment Committee and vice chair of the Tax Committee. He also serves as a member of the Energy, Utilities Finance and Policy Committee, the Transportation Committee, the Environment Natural Resources Finance and Policy Committee, and the Legacy Committee, and is a member of the Legislative Pension Commission. Senator Senjem was the Senate author of Mayo Clinic’s Destination Medical Center legislation. This innovative economic development initiative is generally regarded as the largest economic development project in Minnesota history. It secures Mayo Clinic’s status as a global medical destination and sets into motion the reinvention of the City of Rochester both physically and culturally, including the necessity for the city to take a new look at how it procures and utilizes energy. Senator Senjem has played an active role in the Minnesota/Germany Energy Policy Exchange Program. From these experiences he has come to understand the reasons, reality, and importance of looking at energy transformation from an economic perspective. His personal ambition is to take what he has learned and continues to learn from his German experiences and work with others towards building a new energy based economy in Southeastern Minnesota.

Ken Smith, PE, MBA is president and CEO of District Energy St. Paul and its affiliate Ever-Green Energy in 2010. A recognized leader in community and campus scale energy systems, Smith is actively engaged in industry, policy, and academic forums addressing our energy future. He is a frequent speaker at national and international conferences and is regularly asked to brief local, state, and federal planners, policy makers and regulators. For the past 5 years, Smith has participated in the energy policy exchange between Germany and the State of Minnesota. Prior to joining District Energy St. Paul and Ever-

Green Energy in 2006, Smith worked globally in the engineering and construction industry for over 20 years: planning, designing and implementing highly reliable energy projects, including central plants, micro-grids, datacenters, and other mission critical facilities for advanced tech industry, campuses, international airports, and U.S. Department of Defense. Smith currently serves as vice president of the Midwest Renewable Energy Tracking System Board of Directors (M-RETS); executive board member of the Saint Paul Area Chamber of Commerce; and is a Fellow of the University of Minnesota’s Institute on the Environment (IonE). From 2014 to 2015, he chaired the International District Energy Association board of directors. He has a bachelor’s degree in electrical engineering from North Dakota State University and a master’s degree in business administration from the University of St. Thomas in Minneapolis, MN. Smith is a registered professional engineer in several U.S. states.

Speaker Biographies

Jens Acker is counselor for energy and climate policy at the Embassy of the Federal Republic of Germany in Washington, D.C. Before moving to his present post in April 2016, he worked for a decade at Germany’s Federal Ministry for Economic Affairs and Energy. After the nuclear accident in Fukushima in 2011, Acker transferred to the Ministry’s energy department to focus on energy supply security and combined heat and power. From 2000 to 2007, he worked for the state government of Saxony in regional administration and was responsible for regional funding programs. Acker has a law degree.

Dr. Till Barmeier heads the activities of Siemens Wind Power in energy storage research. He has been with Siemens since 2010, starting as a thermodynamics specialist in the former Wind Power headquarters in Brande, Denmark. He moved to Hamburg to lead the development and erection of a demonstration plant for the wind energy storage technology that Siemens Wind Power is currently developing. Dr. Barmeier and his research partners are establishing a thermal storage unit on the Trimet aluminum smelter site in Hamburg-Altenwerder to the south of the River Elbe. The full-size future energy solution unit will be able to store around 36 megawatt hours (MWh) of energy in a container with around 2,000 cubic meters of rock. Via a boiler, the heat it contains will generate so much steam that a Siemens compact steam turbine can generate output of up to 1.5 MW of electricity for up to 24 hours a day. The researchers expect to generate effectiveness of around 25% even in this early



Thomas Fischer



Imen Chourabi



Patrick Graichen



Torsten Höck



Andreas Jahn



Martin Kessler

Speaker Biographies *(continued)*

development phase. In the future the concept has the potential for an effectiveness of around 50%. Before joining Siemens, Dr. Barmeier worked as a research associate at the University of Hamburg, where he also received his PhD in mathematical physics in 2010.

Antonella Battaglini is founder and chief executive officer of the Renewables Grid Initiative (RGI). RGI was born in 2009, when NGOs and TSOs from across Europe came together to promote transparent, environmentally sensitive grid development to further the growth of renewable energy and the energy transition. In 2015, RGI initiated its Energy Regions in Transition program, a comprehensive, systematic and regular exchange on energy-related best practices and experiences between different regions of the world. The focus has been on Europe and the USA and on learning from each other. Battaglini is a member of the European Commission's expert group on electricity interconnection targets. She was an expert member of the World Economic Forum's 2014-2016 Global Agenda Council on the Future of Electricity. In 2015, she was named one of Tällberg's 2015 five Global Leaders for her commitment to a sustainable energy future and combating climate change. She is also a senior scientist at the Potsdam Institute for Climate Impact Research (PIK), where she leads the SuperSmart Grid (SSG) process, a concept she developed together with her team to reconcile different approaches to the system integration of renewables.

Prof. Dr. Werner Beba is the coordinator and director of the collaborative large scale Smart Energy Showcase NEW 4.0 that connects Hamburg and the state of Schleswig-Holstein, a top producer of wind energy. The project is one of five selected by Germany's Federal Ministry for Economic Affairs and Energy to find replicable solutions to key challenges of the energy transition (see page 3 for more info). Dr. Beba directs the Competence Center for Renewable Energy and Energy Efficiency (CC4E) at Hamburg University of Applied Sciences HAW Hamburg. His teaching focus is on marketing and renewable energy. Before becoming a tenured professor at HAW in 2008, Dr. Beba worked in various leadership positions at the media company Gruner + Jahr. Beba chairs the board of wind energy company UMaAG, serves as the formal spokesperson for the Hamburg Senate energy grid council (Energienetzbeirats des Hamburger Senats), and is managing director of the company CC4E Windenergie Unternehmensgesellschaft. Since July 2017, Beba also serves as spokesperson of the association for energy research Hamburg EFH. He holds a PhD from Helmut-Schmidt-University.

Marina Berning works for Hamburger Verkehrsverbund GmbH (HVV) in the marketing department. Hamburg transport association HVV is a company that coordinates public transport in and around Hamburg, Germany. Its main objectives are to provide a unified

fare system, requiring only a single ticket for journeys with transfers between different operating companies, and to facilitate and speed up travel by harmonizing the individual companies' schedules. At its inception in 1965, HVV was the first organization of this kind worldwide. The Verkehrswende (engl.: transportation turnaround) is a key component in Germany's energy transition strategy.

Isabell Bilger is director of communications at VfEW, the association of energy and water industries in Baden-Wuerttemberg. She holds an MBA from the School of International Business and Entrepreneurship Berlin and earlier worked as a communications specialist for the European Parliament.

Alexander-Florian Bürkle is managing director of Stadtwerk am See GmbH & Co. KG (SWS), an innovative municipal utility that was created in 2012 by the cities of Ueberlingen and Friedrichshafen to take advantage of synergies, improve customer service, and better respond to changing energy market structures. Today the company is the area's largest utility offering a very broad range of services. It explicitly embraces the production of decentralized renewable energy and Germany's Energiewende. Bürkle has over 20 years of experience in the energy industry and has held leadership positions in technical and business management. Before moving into his present position in 2016, he served for two years as chief operating officer with a multi-utility large area provider and was responsible for technology, relations with municipalities, innovation and market strategies, and communications. Bürkle is well known in southern Germany's energy industry. He sits on a number of boards. He has a degree in business from the University of Mannheim.

Uwe A. Carstensen is a freelance consultant for urban development, urban redevelopment and construction. Carstensen joined the state-owned port and location development company Hafencity Hamburg GmbH as executive assistant in 2003. Hafencity Hamburg GmbH is a 100 percent subsidiary of the Free and Hanseatic City of Hamburg. The company is developing Hafencity at Hamburg's behest. In 2006, Carstensen founded his own consultancy company. As a freelancer with a focus on target group communications, Carstensen was involved in all aspects of planning and implementing the International Building Exhibition IBA Hamburg in 2013. He has been working on various planning projects involving the University of Hamburg and Hafencity Hamburg. Carstensen holds an engineering degree in architecture from Technische Universität Braunschweig. He is also a certified carpenter and cabinetmaker. After graduating from technical university in 2000, he worked for the Hamburg Chamber of Commerce. In 2015, Carstensen served as a speaker in Minnesota as part of that year's Berlin Seminar follow-up community and expert events. His presentations on the redevelopment of Hamburg's port



Martin Konermann



Harry Lehmann



Helmfried Meinel



Christoph Müller



Michael Petri



Gerard Reid

area were especially well received in Rochester, MN, where the Mayo Clinic has embarked on a major expansion of its city center campus.

Christoph Drusenbaum is energy manager of Lake Constance Water Supply (Zweckverband Bodensee-Wasserversorgung BWV). BVW is an inter-municipal association that supplies drinking water from Lake Constance to about 4 million people in 320 municipalities, including the city and metro region of Stuttgart, which is 100 miles to the north. Drusenbaum has been working for BVW since 2014. He is the technical project lead on R&D projects, is responsible for the procurement of about 160 GWh of electricity p.a., and introduced a load management system to his area. He holds a master's degree in renewable energy and energy efficiency from the Fraunhofer Institute for Wind Energy and Energy System Technology at the University of Kassel and a degree in engineering with a focus on environmental technologies and sustainable business. His master's thesis developed an algorithm for calling in minute reserves. He continues his association with IWES Fraunhofer as a research associate and is working on how errors in predicting wind and solar supply affect calling in base loads.

Dr. Birgit Fais is an analyst in the Department of Energy Policy at the Ministry of the Environment, Climate Protection and Energy Sector Baden-Württemberg. She focuses on policy questions relating to electricity markets, energy prices, support mechanisms as well as federal and European energy policy. Birgit Fais holds a PhD in energy economics and has previously worked as a research analyst in longterm energy system modelling at the UCL Energy Institute in London.

Thomas Fischer is chief executive officer of EKS, the electric utility of the Canton of Schaffhausen, Switzerland. He has more than twenty years of experience in management. Before joining EKS in 2013, he was chief executive officer at several mid-size industrial companies in Switzerland and Germany. In keeping with the shareholders' long-term business strategy he successfully runs a strategy of implementing renewable energy infrastructure projects based on wind and PV. The utility's major shareholder is the Canton of Schaffhausen. The company is unique in that it serves customers in both Switzerland and Germany. Based on a 1908 contract between the former grand duchy of Baden (and its legal successor, the German State of Baden-Württemberg) and the Canton of Schaffhausen, EKS must service the electrical grid infrastructure in two countries. Two distinct regulatory systems have to be covered by the company's 100 FTE employees. About 30% of the staff has nationalities other than Swiss. The commercial point of view is only one aspect when running the business. In a company that links two nations with different legal and political systems, granting a supply guarantee to both has to be kept in mind at all times. Fischer has significant experience with sustainable management structures and processes and has won several awards for outstanding sustainability

achievements in Switzerland. He is vice president of the board at Avectris, an information technology company focused on utilities. Fischer holds an MBA from the University of Cardiff, Wales, UK.

Imen Ghourabi is a smart grids manager and electrical engineer at Netze BW GmbH. Netze BW GmbH is the distribution system operator of the EnBW group in Baden-Wuerttemberg. Netze BW is one of the largest distribution system operators in Germany with approx. 3.600 employees. Ghourabi heads projects related to distribution grid innovation. As a smart grids manager she analyzes trends in the energy sector and develops innovations and scenarios in cooperation with university and industry partners. She is responsible for testing and evaluating system solutions for an optimal integration of photovoltaics into an actual low voltage grid: The Smart Grid Lab Sonderbuch. In the village of Sonderbuch (Reutlingen County), almost every home has roof top pv panels. At their peak, the units produce six to seven times more electricity than the locals need. This setting offers a real-life lab for integrating increasing amounts of fluctuating solar energy on distribution grids.

Dr. Patrick Graichen is executive director of Agora-Energiewende, a think tank created by the Mercator Foundation and the European Climate Foundation in 2012 after the German government's decision to exit nuclear power by 2022. Agora-Energiewende seeks to examine the broadest range of evidence-based scenarios for transforming the current energy system to one fed almost completely by renewable energy sources. Graichen became executive director in January 2014 having served previously as deputy director. From 2001 to 2012, he worked at the Federal Ministry of Environment: first in the area of international climate policy, then from 2004 to 2006 as personal assistant to the ministry's deputy secretary, and from 2007 as head of the unit for energy and climate change policy. He was in charge of negotiating the design of the economic instruments in the Kyoto Protocol, the Integrated Energy and Climate Programme of the Federal Government (2007) and the EU's Climate and Energy Package (2008). The Federal Environment Ministry has granted Dr. Graichen special leave for his work at Agora Energiewende. He studied economics and political science and holds a PhD from the Interdisciplinary Institute for Environmental Economics at the University of Heidelberg with a dissertation on municipal energy policy.

Thomas Grosche is responsible for regulation and business development at Stromnetz Hamburg GmbH. Since 2014, the electricity distribution grid in the city of Hamburg is fully owned by the Free and Hanseatic City of Hamburg. Citizens voted in a referendum on buying back the electricity, natural gas, and district energy grids. The transfer of ownership for the electric grid has been completed. The buy-back of the other two is in progress.



Albrecht Reuter



Martin Schöpe



Klaus Schweininger



Nicole Seibold



Elias Siehler



Henning Speck

Speaker Biographies (continued)

Torsten Hoeck is managing director of the association of energy and water industries Baden-Wuerttemberg e.V. (VfEW). The association has over 230 member companies and represents nearly all energy and water industry companies in the state of Baden-Wuerttemberg. VfEW is linked to the federal umbrella organization, the federal association of energy and water industries (BDEW). VfEW members span the spectrum from large corporations to municipal utilities to small and in part privately owned regional providers and coops. The member companies cover all aspects of the value chain, from production and distribution to marketing and sales. Ancillary and system services products are becoming more important as the unbundled energy and water markets mature. VfEW's member companies provide electricity, natural gas, district heating, and water to customers in industry, business, and 10 million citizens across a large service territory of about 14,500 square miles. Before his move to leading VfEW in 2014, Hoeck worked at the BDEW federal office, including as chief of staff at the federal association in Berlin. He is known for his subject matter expertise (specifically legal frameworks for competition, association, insurance, and contracting) and his deep understanding of his industry's political contexts. He holds a law degree from Bonn University and spent five years in schools in the USA.

Andreas Jahn is a senior associate at the Regulatory Assistance Project (RAP) Berlin office. He focuses on Germany's energy transition and helps develop and advance regulatory options for a carbon-neutral power sector, including demand-side resources and tariff design. He also supports RAP's work throughout Europe. Jahn has extensive experience with power markets and regulation, as well as knowledge of the German national political arena. Prior to joining RAP in 2012, Jahn was responsible for all energy policy and regulatory matters as director of regulatory affairs at lekker Energie, a German electricity and gas provider. Through his work as a senior expert for the Association of New Energy Suppliers, he gained valuable insight into political decision-making processes and legislative procedures. He was also a member of the Federal Ministry of Economics' task force on legislation to implement grid regulation in Germany.

Martin Kessler is a member of the governing council of Swiss canton Schaffhausen. Regierungsrat Kessler is commissioner of building and energy for Schaffhausen canton.

Dr. Martin Konermann is executive director of technology at Netze BW GmbH, the distribution system operator of the EnBW group in Baden-Wuerttemberg. Netze BW is one of the largest distribution system operators in Germany with approx. 3,600 employees. Dr. Konermann was responsible for restructuring the company's area of technology in order to increase efficiency. In addition, he turned the focus of Netze BW to innovation in order to meet the new challenges

that come with increasing amounts of renewable energy and the advent of electric mobility. The Grid Lab Sonderbuch is a case in point. Dr. Konermann graduated in electrical engineering and holds a PhD in engineering from the university of Erlangen-Nürnberg. Prior to taking the position of executive director in 2012, Dr. Konermann served as chairman of the managing board of terranets bw GmbH (2011 to 2012), an independent transmission operator for natural gas. Before that, he was member of the managing board at ELMÜ EMASZ in Hungary and chairman of SSE in Slovakia, Bratislava. In addition to serving on other boards, Dr. Konermann is involved in a number of nonprofits that focus on technology innovation. He serves as deputy board chair for the Smart Grid Baden-Wuerttemberg e.V. association and is a member of the European Distribution System Operators for Smart Grids. His passion for technology innovation and tinkering extends to his home. He has installed solar panels on his roof, a smart meter in his basement, and is trying to figure out how to use a CHP unit and intelligent management systems to create back-up power for his home in case of emergency.

Dr. Harry Lehmann heads the division for environmental planning and sustainability strategies at Germany's Federal Environment Agency (UBA) in Dessau. He is one of the founders of Eurosolar, the non-profit European Association for Renewable Energy and served as its deputy president from 2000 to 2006. A physicist by training, Lehmann was a member of the "UA1" collaboration under Carl Rubbia at the CERN in Geneva. He left in 1984 to found the engineering consultancy "UHL Data" for systems analysis and simulation in the field of energy and environment and to head the systems analysis group at the Wuppertal Institute for Climate, Environment and Energy. Since 1985, he has been an instructor at the University of Luneburg and other institutions. Other notable activities include serving on several blue ribbon commissions and as unit director of Greenpeace International. He is the executive chairman of the World Renewable Energy Council and president of the international "Factor X Club" for resource productivity and sustainable use of natural resources. He has been involved in the Minnesota-Germany energy policy exchange since 2011 and is credited by Minnesota state legislator Representative Melissa Hortman with helping Minnesota move to a solar energy mandate in 2013. The Solar Energy Jobs Act established a 1.5 percent by 2020 solar electricity standard for large utilities that is on top of the state's existing 25 percent by 2025 renewable energy mandate.

Helmfried Meinel (Dipl.-Ing.) is director general at the Ministry of the Environment, Climate Protection and the Energy Sector of the state of Baden-Württemberg. He was recruited to his position in May 2011 by incoming Green Party minister of the environment Franz Untersteller. Originally from Muenster (NRW), Director General Meinel studied electrical engineering at Stuttgart University.

After finishing his engineering degree, he worked as a research associate on gas discharge physics at the Institute of Physical Electronics, University of Stuttgart. In 1984, he moved to Germany's then-capital Bonn to serve the Green Party caucus as a scientific staff member and was responsible for research and technology, renewable energy and climate protection topics. From 1988 to 2011, Meinel worked in various leadership roles at the consumer advocacy organization Verbraucherzentrale North Rhine–Westphalia: as head of the department of housing and energy (1990-1997), as director in charge of special consumer topics and member of the board of management (1997-2011), and additionally as acting director for consumer rights and financial services (2005-2006). Since 2000, Meinel has been serving as a member of the board of EnergieVision e.V., a nonprofit that was founded jointly that same year by WWF Germany, Verbraucherzentrale Nordrhein-Westfalen, and Oeko-Institut. The organization seeks to enhance consumer rights, environmental protection, and market transparency in the energy sector. EnergieVision provides the green electricity certificate ok-power.

Dr. Christoph Müller is executive director of finance at Netze BW GmbH, the distribution system operator of the EnBW group in Baden-Wuerttemberg, and has been managing the financial and regulatory activities of the company since 2013. In 2015, he was appointed spokesperson of the board. Dr. Müller joined the EnBW group 17 years ago and has since been employed in varied positions. From 2010 to 2013, he held the position of executive director at EnBW Trading GmbH, responsible for risk management and finance. Previously, he served as executive director at EnBW Transportnetze AG (now: TransnetBW GmbH) where he was in charge of finance and network sales. Before joining the EnBW group in 2000, he worked for PowerGen UK plc (now: E.ON UK plc). Dr. Müller has over 20 years of experience in the energy industry and has deep expertise in energy policy, utility regulation and power trading. Dr. Müller holds a master's degree and a PhD in economics from the University of Münster (Westfälische Wilhelms-Universität Münster). Furthermore, he holds an MBA from Warwick Business School. Dr. Müller is a member of several supervisory boards of utility companies in Baden-Wuerttemberg—including Stuttgart Netze Betrieb GmbH (chairman), Netcom BW GmbH (chairman), and Energiedienst AG. He is a regent of the University of Stuttgart and serves as chairman of the 'Förderstiftung der Diakonie Kork', a charity providing support for the disabled and elderly.

Dr. Michael Petri is laboratory manager at the chemical analysis department of Lake Constance Water Supply (Zweckverband Bodensee-Wasserversorgung BWV). He has a PhD from Glasgow Caledonian University and more than 20 years of experience in organic and inorganic analysis of surface, ground and drinking water. Dr. Petri has an active research agenda and collaborates with researchers at a range of national and international institutions. BVW is an inter-municipal association that supplies drinking water from Lake Constance to about 4 million people in 320 municipalities, including the city and metro region of Stuttgart, which is 100 miles to the north. The water intake is at a depth of about 190 feet and water is pumped up 1,000 feet to a treatment plant atop the hill at Sipplingen. Seventeen pumping stations help get the drinking water to customers across the very large service area. The electric energy needed is significant. At present BVW

has 14 energy recovery plants, the largest at 100KW. To translate to Minnesota dimensions: Lake Constance has the size of Minnesota's Lake Millacs but has a long rather than round shape.

Maria Quignon is head of communications for Lake Constance Water Supply (Zweckverband Bodensee-Wasserversorgung BWV).

Gerard Reid is the founder and co-partner of Alexa Capital LLC. He has over a decade of experience in equity research, corporate finance and fund management. He is a leading energy expert as well as lecturer, author and monthly columnist for Biz Energy Today, the German energy industry publication. Prior to founding Alexa Capital, he was managing director and head of European cleantech research at Jefferies & Co. Before joining Jefferies, Reid managed a renewable energy fund. Over the years, Reid has developed a strong reputation as a global expert in renewable energy and the wider energy space through his work in the wind, solar, biofuels, natural gas, utility and European industrials sectors. Reid is an adjunct professor at Imperial College, London, and lecturer at the University of Applied Science in Berlin. He holds a higher diploma in education and MA business & economics from Trinity College, Dublin.

Dr.-Ing. Albrecht Reuter is director of business development smart grids at Fichtner GmbH & Co. KG and managing director of Fichtner IT Consulting AG. He joined Fichtner in 2008. Dr. Reuter is the director of the C/sells Project and main author of the Smart Grids Roadmap Baden-Württemberg. The C/sells project is one of five selected by Germany's Federal Ministry for Economic Affairs and Energy to find replicable solutions to key challenges of the energy transition (see page 3 for more info). Dr. Reuter began his career at Brown, Boveri & Cie AG in Mannheim overseeing the construction of power plants, before continuing as an international energy consultant at Lahmeyer International GmbH in Frankfurt. From 1983 until 1995 he worked at the University of Stuttgart, in charge of the department dealing with "Energy Planning in Developing Countries" and "Systems Analysis" at the Institute for Energy Economics and the Rational Use of Energy (IER), where he was awarded his doctorate under the supervision of Prof. Dr. Alfred Voss. Later Dr. Reuter worked as division manager for energy management and served as a member of the executive board at Verbundplan GmbH in Austria. Before joining Fichtner, he was the general manager of IRM Consulting & Services GmbH in Vienna. Dr. Reuter is renowned in professional circles for his numerous publications and his regular presentations at international conferences. He is the initiator as well as the scientific leader of the renowned Energy Talks Ossiach, an international energy conference held on a yearly basis since 1997.

Johannes Robert is a certified guide for the International Buildings Exhibit IBA Hamburg 2013. He has been leading tours of the extensive IBA exhibit area for a number of years. His tours focus on innovative multi-family buildings, renewable energy, and citizen participation in urban development. Robert holds a master's degree in urban planning.

Dr. Martin Schöpe is head of the division International Energy Policy, Multilateral Cooperation on Energy and Energy Cooperation with Industrialized Countries at Germany's Federal



Speaker Biographies *(continued)*

Ministry for Economic Affairs and Energy (BMWi). A major part of his work is to prepare the energy sector focus discussions for high-level international meetings. He did so for Germany's presidency of G7 (in 2015) and has been doing the same for this month's G20 meeting in Hamburg. Dr. Schöpe also serves as chair of the Renewable Energy Working Party (REWP) of the International Energy Agency. Dr. Schöpe has been involved with energy policy since 2003. He worked for ten years and immediately prior to moving to BMWi at the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). At BMU his focus also was on international cooperation on renewable energy. He was engaged in preparing for the International Conference renewables 2004 and its various follow up tracks. For BMU, he led the German initiative to establish the International Renewable Energy Agency (IRENA), which was founded in January 2009 in Bonn. Schöpe studied law at the University of Bonn. He holds a PhD in European law.

Klaus Schweininger is head of finance at the TRIMET aluminum smelter in Hamburg. He has a background in engineering and finance and 15 years of experience in the aluminum industry. For TRIMET, he is focusing on how best to adapt the capabilities of an aluminum smelter to the challenges of Germany's Energiewende, the transition to renewable energy sources. This requires extensive technical, commercial and regulatory knowledge. Schweininger is part of the collaborative team behind the large scale Smart Energy Showcase NEW 4.0. The project is one of five selected by Germany's Federal Ministry for Economic Affairs and Energy to find replicable solutions to key challenges of the energy transition (see page 3 for more info). Within NEW 4.0, Schweininger is responsible for the working group "Flexible Load," which is a core aspect of a successful transition and, as he puts it, "the engine room of the project!" TRIMET Aluminium SE is a family-run business with 2,900 employees at eight different locations. The company has built a unique knowledge base about its material and production processes since its founding in 1985. TRIMET develops, produces, recycles, casts, and markets modern light metal products made of aluminum.

Nicole Seibold works as assistant to management on non-aviation issues at Flughafen Stuttgart GmbH. She is the project lead for the airport's 2050 Energy Savings Master Plan and in that role has developed a longterm greenhouse gas emissions reduction strategy. She also is responsible for reconfiguring the airport's multi-stage baggage security system.

Hagen Seifert (HHA)

Elias Siehler is a project manager in the department technical facilities management at Flughafen Stuttgart GmbH. He is responsible for

managing strategic energy projects, including the two R&D projects C/sells and Demand-Side-Management. In addition, he is responsible for load management, the marketing of primary control energy, and creating an infrastructure for charging electric vehicles. Siehler has a master's degree in engineering.

Henning Speck serves as senior foreign and security advisor to the CDU/CSU Parliamentary Group (caucus) in the German Bundestag. Prior to his current position he served as chief of staff to the Coordinator of Transatlantic Cooperation of the German Government, MP Jürgen Hardt. From 2011 until 2014, Speck served as political counselor at the German Embassy in Washington, DC. Before that, he worked in different capacities in the Foreign Office in Berlin as well as on the National Security Council being responsible for Asian affairs.

Dr. Roland Trauth is chief operating officer with statutory authority at Stadtwerke Karlsruhe Netzservice GmbH, the municipal distribution system operator of the City of Karlsruhe. He has nearly 20 years of experience in the energy industry as a senior manager and professional engineer. Dr. Trauth is a member of several working groups at the association of energy and water industries Baden-Wuerttemberg VfEW and a network of other municipal utilities in Germany. He has a master's degree in civil engineering and a PhD in sanitary engineering from the University of Karlsruhe. He first worked as a project engineer for an engineering consulting firm in water and waste projects abroad. He has been with the municipal utility of Karlsruhe since 1999. Dr. Trauth is responsible for the department of energy economy, which includes the sectors network access, asset management, end consumer management, energy data management and regulation management.

Holger Veith (Dipl.-Ing.) is division head for utilities at Stuttgart Flughafen GmbH. In the mid-1990s, he began building the airport's energy management infrastructure, which he has been improving continuously. He was the project lead for conceptualizing district heating on the airport's north end (20 MW capacity). Today he is in charge of the airport's entire heat and water supply.

Holm Wagner (Dipl.-Ing.) heads the divisions for technical facilities management and utilities. He is in charge of almost all technology infrastructure at Flughafen Stuttgart GmbH. He also serves as managing director of Flughafen Stuttgart Energie GmbH, which makes him responsible for the airport's entire energy supply. Flughafen Stuttgart aims to become one of the most sustainable and efficient airports in all of Europe.

Malte Wehmeyer heads the office of the Hamburg Senate energy grid council (Energienetzbeirats des Hamburger Senats). It is located in the City's Department of Environment and Energy (BUE). The citizens of Hamburg decided in a referendum to buy back the electricity, natural gas, and district energy grids.

Udo Woble is head of energy systems at Stadtwerk am See GmbH & Co. KG municipal utility.

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